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ABSTRACT

Registered nurses, interns, and residents from five hospitals in Ohio, Pennsylvania, and New Jersey were administered the Maslach Human Services Survey, Rosenberg's Self-Esteem Scale, Rotter's Locus of Control Scale, Newman's Alpha Omega Scale, and a demographic questionnaire. Results strongly suggested that an individual with high self-esteem and internal locus of control, who uses a High Bargaining-Low Anger Profile (as measured on the Alpha Omega Scale) regarding death and dying situations is less likely to experience burnout. Conversely, an individual who has low self-esteem, is more externally controlled and does not utilize any set coping style regarding death and dying situations is more prone to burnout. Nurses were experiencing a moderate degree of burnout. Interns and residents, a mostly male group, demonstrated more depersonalization. Six distinct profiles were determined by factor profile analysis on the Alpha Omega subscales--denial, anger, bargaining, depression, and acceptance. Frequency, rather than intensity of stress, was the contributing factor in burnout. Factors related to death and dying and hospital organization and administration also contributed to burnout. (RR)

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BURNOUT IN HEALTH CARE PROFESSIONALS AS A FUNCTION OF COPING PROFILES, LOCUS OF CONTROL, AND SELF ESTEEM

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Introduction

Burnout is a response to stress (Selye, 1974) and is becoming a serious occupational hazard for nurses and physicians. Although other professions, such as teaching, law, and mental health, have also been identified as vulnerable to burnout, nurses and physicians are particularly vulnerable because of their prolonged, intense involvement with people not only in distress but terminally ill. Health care professionals suffering from burnout become emotionally exhausted and defend against the stress by distancing themselves from their patients and fellow workers. Their

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perceptions of their professional abilities and accomplishments are also hampered (Maslach & Jackson, 1981a). Along with the seriousness of nurses and physicians themselves being afflicted with burnout is the fact that the standard of patient care declines in an atmosphere of those working under extreme stress.

Based on the growing prevalence and seriousness of burnout, the first purpose of this study was directed to the objective measurement of burnout and its relationship to selected psychosocial characteristics of registered nurses, interns, and residents who were working in hospitals. The second purpose of the study, based on the paucity of empirical information about burnout, was to contribute to the empirical data base. The third purpose of this research was to stimulate interest and education regarding burnout among health care professionals.

Background

Historically, the concept of burnout did not appear until 1974 (Freudenberger, 1974). The nursing literature has been rich in recent years in articles and books on the subject of burnout, whereas there has been a paucity in the medical literature on the subject. Since 1978, the nursing literature has recognized burnout as a serious syndrome and the medical profession refers to burnout as part of the physician impairment syndrome.

Emotional exhaustion, depersonalization, and hampered perception of personal accomplishment are just three effects of burnout. High levels of anxiety and defensive mechanisms, such as denial and

repression, are present as responses to stress. Emotional responses such as confusion and irritability are present in burnout and often mental exhaustion, in the form of concentration deficits, is manifested.

Of major concern in the burnout syndrome is the dehumanization and distancing processes encountered. These behaviors, often seen in burned-out health care professionals, directly affect patient care.

It has been suggested in the literature that there are internal and external causes of burnout. Internal causative factors are personality characteristics in the individual such as locus of control and self-esteem whereas the external causes are such factors as actual working conditions.

It has been widely accepted that burnout is a response to chronic stress. Health care professionals continue to work under conditions of chronic stress which does not let the body rest long enough to be restored to its proper balance. Continued stress can lead to physical and mental breakdown.

Method

The subjects participating in this research were registered nurses, interns, and residents from five general hospitals in Ohio, Pennsylvania, and New Jersey. Registered nurses, interns, and residents were selected because they are the health care professionals who experience the most patient contact.

The measuring instruments selected for this study were the Maslach Human Services Survey (a burnout inventory), Rosenberg's Self-Esteem Scale, Rotter's Locus of Control Scale, Newman et al.'s Alpha Omega Scale (addressing attitudes about death and dying), and a demographic questionnaire.

The research design employed in this study was ex post facto. The method of statistical analysis was multiple linear regression. Additional statistical analysis was performed on the five subscales of the Alpha Omega Scale. The five subscales were subjected to profile factor analysis and then to multiple linear regression.

The study was conducted by means of a mailed survey. Nursing and medical administrators at the five general hospitals extended their cooperation and help in conducting this research.

Research Hypotheses:

Three general hypotheses and 30 specific research hypotheses were subjected to multiple linear regression analysis. The five subscales of the Alpha Omega Scale were analyzed by means of profile factor analysis. The criterion variables in the regression models were three components of burnout obtained from a burnout survey. The predictor variables were a combination of personality variables, demographic variables, and profiles regarding death and dying.

All tests of significance were two-tailed and conducted with alpha corrected for multiple comparisons at .008. Additional

statistical analysis was conducted for the purpose of examining comparisons between professional groups and for obtaining further information regarding the dependent variables.

Summary of Findings

Collectively, the Alpha Omega Scale, as well as typologies, locus of control and self-esteem, predicted emotional exhaustion (R^2 = .1893, Table 1), depersonalization (R^2 = .2638, Table 2), and personal accomplishment (R^2 = .1891, Table 3) in burnout.

On the emotional exhaustion scale, the means obtained for the registered nurses (Table 4) were 21.693 for the frequency of emotional exhaustion and 29.431 for the intensity of emotional exhaustion. According to Maslach and Jackson (1981a), these means, as presented on page 54, fell within the moderate range of emotional exhaustion. The means for the interns and residents, 22.58 for frequency and 29.43 for intensity (Table 4), also fell within the moderate range of emotional exhaustion. A noncaring attitude, inability to give of oneself psychologically, and impaired performance are manifestations of emotional exhaustion (Maslach, 1978a). This researcher believed that even a moderate amount of emotional exhaustion in health care professionals is a matter of concern because of the possible ramifications regarding patient care.

The means for the registered nurses on the depersonalization scale, 6.986 for frequency and 9.476 for intensity (Table 5), were also in the moderate range. However, the means for the interns and residents were 12.118 for frequency of depersonalization and 15.596

for intensity (Table 5). These means fell in the high range of depersonalization, as indicated by Maslach and Jackson (1981a). These findings were consistent with the opinions of several authors (Maslach, 1978b; Muldary, 1983; Patrick, 1979) that the process of depersonalization does exist and is pervasive. It was likely that the interns and residents, in particular, were demonstrating the detachment (Muldary, 1983) and intellectualizing (Maslach, 1978a) that are part of the depersonalization process.

The means for the nurses, interns, and residents on the personal accomplishment scale were also in the moderate range. The nurses' means were 37.77 and 40.090 for frequency and intensity, respectively; and for the interns and residents they were 38.50 for frequency and 40.25 for intensity (Table 6). The registered nurses, interns, and residents in this study may have been experiencing a moderately reduced sense of personal accomplishment in their work.

The Alpha Omega Scale

The Alpha Omega Scales collectively accounted for a significant amount of variance (R^2 = .1202) in predicting emotional exhaustion in burnout (Table 1). The beta weights were 1.0315 for denial, 5.7114 for anger, -1.9790 for bargaining, 7.5001 for depression, and -1.0377 for acceptance. The denial, anger, and depression subscales were positively related to emotional exhaustion, indicating that the more denial, anger, or depression one is experiencing the more likely one is to be emotionally exhausted. The bargaining and acceptance subscales were negatively related to emotional exhaustion,

indicating that those individuals who utilized bargaining and acceptance in their relationships with death and dying situations were less likely to experience emotional exhaustion.

All of the Alpha Omega Scales collectively predicted depersonalization in burnout (R^2 = .0863, Table 2). The beta weights were .5179 for denial, 1.2954 for anger, -.7200 for bargaining, 4.1861 for depression, and -1.0714 for acceptance.

The anger and depression subscales were positively related to depersonalization, meaning that a higher degree of anger and depression was related to feelings of distancing and dehumanization in one's work. Denial, bargaining, and acceptance were found to be negatively related to depersonalization. This indicates that the nurses, interns, and residents in this study who used denial, bargaining, and acceptance when encountering death and dying in their work areas were likely to experience little depersonalization.

Personal accomplishment was also predicted by the Alpha Omega Scales, collectively (R^2 = .0638, Table 3). Denial had a beta weight of .4008; anger, -.9002; bargaining, .9223; depression, -6.8300; and acceptance, 1.1126. The findings indicated that denial, bargaining, and acceptance were positively related to personal accomplishment. This indicated that positive feelings regarding one's capabilities and achievement were likely to be experienced by individuals exercising denial, bargaining, and acceptance in death and dying related situations. Anger and depression were negatively related to personal accomplishment. This may mean that those health care professionals, in this study, who experienced anger and

depression in the death and dying aspect of their work, were more likely to have a reduced sense of personal accomplishment.

The findings regarding the bargaining and acceptance subscales, as they related to emotional exhaustion, depersonalization, and personal accomplishment, indicated that in all three areas of burnout, they were the most desirable coping styles. Possibly, those individuals who were able to be accepting and had an attitude of bargaining when dealing with death and dying situations, were less prone to burnout.

Profile Types of the Alpha Omega Scale

Six profile types regarding coping patterns related to death and dying were determined by a factor profile analysis on the Alpha Omega subscales--denial, anger, bargaining, depression, and acceptance. The profile types, collectively, were found to predict emotional exhaustion (R^2 = .0823, Table 7) and depersonalization (R^2 = .0815, Table 8). The profile types, collectively, did not predict personal accomplishment (R^2 = .0217, Table 9).

Profile Type 1, High Acceptance - Low Anger, had the second lowest mean in emotional exhaustion (M = 88.35) and depersonalization (M = 30.30), indicating that individuals with this profile had a good coping pattern when dealing with death and dying (Table 10). This profile type had 143 nursing interns and residents, which was 44% of the total. Profile Type 1, in relation to emotional exhaustion, was significantly different from Type 6, the undifferentiated type (Table 12). These individuals using high acceptance and low

anger as their coping mechanisms were experiencing significantly less emotional exhaustion than those individuals with no specific coping pattern related to the five subscales.

In relation to depersonalization (Table 11), Type 1 was significantly different from Type 4, High Bargaining - Low Denial; Type 5, High Denial - Low Depression; and Type 6, Undifferentiated. These findings show that health care professionals who use High Acceptance - Low Anger when coping with death and dying experience significantly less depersonalization than individuals using High Anger - Low Depression, High Bargaining - Low Denial, or no coping mechanism at all.

Profile Type 2, High Bargaining - Low Depression, was the third lowest, in terms of means (Table10) in emotional exhaustion (M = 96.52) and depersonalization ($\underline{M}$ = 36.8). There were 57 members of this profile group which is 18% of the total.

Profile Type 2, High Bargaining - Low Depression, was significantly different from Type 6, the Undifferentiated type, in relation to emotional exhaustion (Table 12). Health care professionals in this study who coped with death and dying situations using high bargaining and low depression attitudes were less likely to experience emotional exhaustion than those who did not have a specific coping mechanism.

The most desirable coping mechanism was Profile Type 3, High Bargaining - Low Anger. The mean (Table10) for this profile type, in relation to emotional exhaustion, was the lowest ($\underline{M}$ = 75.511); and in relation to depersonalization, the mean was also the lowest,

at $\underline{M}$ = 29.860. Nurses, interns, and residents using this way of coping with death and dying were likely to experience the least amount of emotional exhaustion and depersonalization. There were 46 subjects, 14% of the total, with this profile.

Type 3, High Bargaining - Low Anger, was significantly different from Type 5, High Denial - Low Depression; and from Type 6, the Undifferentiated type, in relation to emotional exhaustion (Table 12). These findings mean that subjects using high bargaining and low anger as their coping style were likely to experience less emotional exhaustion than subjects using high denial and low depression, or no coping mechanism at all.

In relation to depersonalization, Profile Type 3, High Bargaining - Low Anger, was significantly different from Type 6, the Undifferentiated type (Table 11). A lesser amount of feelings of depersonalization was likely to be experienced by those individuals who were high in bargaining and low in anger regarding death and dying than those health care professionals who did not have a set pattern of coping with death and dying.

Next highest, in terms of means, was Profile Type 4. The mean for Profile Type 4 in relation to emotional exhaustion was $\underline{M}$ = 106.055, and in relation to depersonalization the mean was 48.666 (Table 10). The profile type had 20 subjects which was 6% of the total.

The only significant difference between profile types regarding Profile Type 4 was that between Profile Type 4, High Bargaining - Low Denial, and Profile Type 6, the Undifferentiated type,

in relation to emotional exhaustion (Table12). These findings indicated that individuals using High Bargaining - Low Denial as their coping mechanism regarding death and dying situations were likely to experience less emotional exhaustion than those who have no specific coping style.

Profile Type 5, High Denial - Low Depression, was the second highest profile type in terms of means, in relation to emotional exhaustion and depersonalization. The mean score for Profile Type 5 on emotional exhaustion was 121.63 and the mean score on depersonalization was 58.090 (Table 10). There were 23 subjects using this coping style which was 7% of the total number of subjects.

Profile Type 5, High Denial - Low Depression, was not significantly different from any of the other profile types. This indicates that this profile type was not significantly different, in terms of coping patterns, than any of the other five profile types.

Type 6, the Undifferentiated type, had the highest of the means on emotional exhaustion ($\underline{M}$ = 181.000) and the highest of the means on depersonalization ($\underline{M}$ = 70.0, Table 10). There were 37 subjects, which was 11% of the total, in this profile type.

Locus of Control

The findings indicated that individuals who were internally controlled experienced less burnout. Locus of control accounted for a significant amount of variance in predicting emotional exhaustion ($\underline{R}^2$ = .1012, Table 1); in predicting depersonalization ($\underline{R}^2$ = .0463, Table 2); and also in predicting personal accomplishment ($\underline{R}^2$ =

.0527, Table 3). The beta weights related to these findings were 4.6970 for emotional exhaustion, 1.6788 for depersonalization, and -2.8848 for personal accomplishment

An interesting finding was that, when locus of control was statistically analyzed using the intensity and frequency scales of depersonalization separately (Table 13), it was the frequency and not the intensity that was determined to be significant. This demonstrates that regarding the relationship between locus of control and depersonalization, it was the duration and chronic state of stress, and not the intensity of stress, that contributed to registered nurses, interns, and residents experiencing burnout.

Self-Esteem

The nurses, interns, and residents in this study who had high self-esteem experienced less burnout. Self-esteem accounted for a significant amount of variance in predicting emotional exhaustion (R^2 = .044, Table 1). The related beta weight was 03.1959. These findings indicated that the health care professionals in this study who had high self-esteem were likely to be emotionally exhausted at work. Likewise, depersonalization was predicted by self-esteem (R^2 = .0260, Table 2), the beta weight being -1.2925. Individuals who had high self-esteem experienced less distancing, or depersonalization, in relation to their patients and co-workers. Personal accomplishment was also predicted by self-esteem (R^2 = .1339, Table 3). The beta weight

was 4.7194. Subjects who had low self-esteem were more likely to experience a reduction in personal accomplishment.

The statistical analysis of the separate intensity and frequency scales of depersonalization in relation to self-esteem revealed that it was the frequency, and not the intensity, scale found to be significant (Table 13). Once again, it seemed to be the frequency and not the intensity of stress that was most harmful.

Demographic Variables

Several demographic variables predicted depersonalization. Professional status accounted for a significant amount of variance in predicting depersonalization ($\underline{R}^2$ = .1315, Table 2). The beta weight was 26.0047. These results indicated that being an intern or resident makes one more likely to experience depersonalization.

Gender also predicted depersonalization ($\underline{R}^2$ = .1211, Table 2), indicating that females are less likely than males to experience depersonalization. The related beta weight was -25.6903. Tenure was found to be negatively related to depersonalization ($\underline{R}^2$ = .0278, Table 2), the beta weight being -.1091, meaning that the longer subjects in the study had worked at their jobs, the less likely they were to have feelings of depersonalization.

There were no significant relationships found between presence in intensive care and the Alpha Omega Scale, locus of control, and self-esteem. A possible explanation for the nonsignificant findings is that the administration of intensive-type care

is presently more diffused throughout the various departments of a hospital than was the case 3 to 5 years ago. The rising cost of medical care has forced the government and insurance companies to restrict payments for hospital care. Only those patients who are actually ill and require considerable care are admitted to a hospital. Diagnostic evaluations and many surgeries are now performed on an outpatient basis while the more seriously ill patients requiring more care and monitoring comprise the hospital population.

Conclusion

One can see from the results of this study that knowledge of locus of control, self-esteem, and typology of coping styles are useful constructs in identifying the relationship between personality characteristics and burnout. The data strongly suggested that an individual with high self-esteem, internal locus of control, and who utilizes a High Bargaining - Low Anger profile regarding death and dying situations is less likely to experience burnout. Conversely, an individual who has low self-esteem is more externally controlled and does not utilize any set coping style regarding death and dying situations is more prone to burnout.

To summarize, the registered nurses, interns, and residents in this study were experiencing a moderate degree of burnout. The interns and residents were experiencing a somewhat higher level of depersonalization. It may be reasonable to

assume that these individuals were beginning to experience feelings of apathy, noncaring, and distancing.

Discussion

The findings support the writings of Lachman (1983) who considered burnout as the number one occupational health hazard for nurses and for Farber (1983) who discussed the syndrome in physicians. That the physicians in the study (who were mostly male) demonstrated more depersonalization than the nurses supports the findings of Maslach and Jackson (1981b) who found that males scored higher on depersonalization than females. This researcher also considered as a contributing factor to this finding the fact that physicians may utilize depersonalization to enable themselves to deal with the intellectual decision making which is their responsibility. Regarding death and dying situations, Campbell et al. (1983) reported that physicians are trained to intellectualize their feelings about death.

The findings indicated that the registered nurses, interns, and residents in this study who did not utilize a set coping mechanism regarding attitudes about death and dying were likely to experience the highest degree of emotional exhaustion and depersonalization. Summarizing the profile types, those individuals utilizing Profile Type 3, High Bargaining - Low Anger, were less likely than the other five types to experience burnout. Conversely, those individuals in Profile Type 6, the Undifferentiated type, were most likely to experience burnout.

The research regarding the profile types of the Alpha Omega Scale supports the idea of fluidness in coping mechanisms pertaining

to death and dying situations; that is, there is not just one coping style (Newman et al., 1983). Also, the research has demonstrated a relationshp between stress and working with terminally ill patients as proposed by several authors (Gentry & Parks, 1982; Jacobson & McGrath, 1983; McCue, 1982; Reichle, 1975).

The most desirable coping pattern regarding death and dying was high bargaining - low anger. This researcher found it most interesting that bargaining was found to be the most effective mechanism utilized by the subjects in this study. Keeping this finding in the context of a situation in which a nurse or physician is seeking to save a life, the adaptation mechanism of bargaining might be viewed as an expression of religiosity. For example, to bargain for more time to execute life-saving procedures, to bargain for time to seek out more knowledge, to bargain with God at a time of impending death, seems to this researcher to be a very caring mechanism and one based on religious convictions and one that reflects the high value placed on life.

The results indicated that a registered nurse, intern, or resident who was more internally controlled was likely to experience less emotional exhaustion than an individual who was more externally controlled. Regarding depersonalization, those subjects who were more internally controlled were less likely to experience depersonalization. Positive perceptions about one's personal accomplishment at work were more likely to be experienced by those health care professionals who were more internally, than externally, controlled.

The registered nurses, interns, and residents in this study who were internally controlled were less likely to become burned out in their work. These findings support the work of Organ and Green (1974) who concluded that internal locus of control acts as a moderator of stress in the work situation.

The research regarding the relationshp between self-esteem and burnout indicates that those individuals who have high self-esteem are less likely to experience burnout. These findings support the conclusions of Maslach (1982) and McConnell (1982) in that low self-esteem is related to burnout. However, the results of the research do not support the findings of Newman et al. (1985) who found that nurses with high self-esteem were prone to burnout.

The subjects in this study were still reporting a rather high level of self-esteem even though they were experiencing a moderate degree of burnout. This researcher interpreted this finding to mean that it may be possible that nurses, interns, and residents, generally, enter their profession with a high level of self-esteem, enabling them to cope with the responsibilities inherent in their work.

The results of the research regarding tenure and burnout were interesting. Generally, one would think that the longer one was a nurse or physician, the more hardened they would become to the happenings experienced at work. The opposite was found in this research, indicating that those professionals who had longer tenure were less likely to distance themselves from their patients or to depersonalize their feelings regarding their work. These findings

support those of Shinn et al. (1984) who proposed that new health care professionals are at high risk for burnout. Perhaps the newer professionals utilize depersonalization as a defense mechanism against the realities of their work.

For both the self-esteem and locus of control variables, the statistical findings indicated that it was the frequency and not the intensity of stress that was the contributing factor in burnout. These findings support Muldary (1983) who said that it is the chronic stress, and not the episodic stress or intense stress, that leads to burnout. In a health care situation, it seems to be factors like repeated exposure to death and dying, lack of enough staff, working on a rigid work schedule, and the continuing responsibility regarding the administration of medications and treatments that contribute to extreme stress or burnout.

Implications

The results of the research indicate that a registered nurse, intern, or resident who has high self-esteem, has internal locus of control, and utilizes high bargaining and low anger in death and dying situations is at low risk for burnout. Registered nurses, interns, and residents who have low self-esteem, have internal locus of control, and do not have a set pattern of coping with death and dying situations is at high risk for burnout. Several implications are pertinent to these findings.

1. Training and educational programs in the health care professions do not take into account their students' personality

characteristics as they relate to the nature of the work. Evaluations of professional students, regarding their personality characteristics, would be helpful in terms of future selection of a specialty.

2. Assuming that modification of the personality characteristics would be possible, special training in coping and stress reduction for the more stressful areas of health care would prepare the professionals for the realities of their work.

3. Regarding hiring practices, professionals at either high or low risk of burnout could be identified and working assignments could be made that would be congruent with the individual's personality and coping style. For example, individuals with high self-esteem and internal locus of control may be more suitable for intensive care work.

4. What needs to be done is the further evaluation of the results of this research in terms of actual patient care.

5. The findings suggest that it is the chronic state of stress that produces burnout. Perhaps a rotation system wherein professionals would not remain in the really high stress areas for prolonged periods of time would lessen the tendency for burnout on the job.

Suggestions for Further Research

The research demonstrated that a moderate degree of burnout was present in registered nurses, interns, and residents. One area that was not addressed in this research was the physical component

of burnout. Research in this direction would provide needed information, tying together the emotional and physical components of stress in this particular population.

Six profile types were identified from the Alpha Omega Scale dealing with coping mechanisms surrounding death and dying. These profile types included nurses, interns, and residents. Future research which would differentiate the profile types based on professional status would add important information to the data base in this area of study.

Only descriptive statistics addressed the difference due to professional status. More detailed investigation addressing the differences between nurses, interns, and residents regarding all the components of burnout would be extremely useful.

Another related focus of future research could address the amount of burnout in female physicians and male nurses, thus eliminating gender as a confounding element.

A population which is difficult to convince to participate in research is the staff physician or family practioner. However, valuable information could be obtained showing relationship on all the variables used in this study. Breaking it down even more, studying the level of burnout among the various medical specialties would be important.

More information is needed regarding the type and duration of stress and its effects on nurses and physicians. What is really more important--the frequency or intensity of stressful situations?

Another question for future research is: Would the administration of the Alpha Omega Scale to incoming health care professionals be useful in providing them with information regarding their attitudes about death and dying?

Health care administrators would possibly be interested in assessing the degree of burnout in nurses and physicians at regular intervals. Research in this area would be extremely useful in terms of prevention of extreme stress.

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Table 1

Results of General Hypothesis 1 and Specific Research Hypotheses 1-7 Indicating the Relationship of the Alpha Omega Scale, Self-Esteem, Locus of Control, and Selected Demographic Variables to Emotional Exhaustion

Hypothesis Number	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p*	Significance
HG1	Alpha Omega Scale	.1893	.00	11/297	6.3048	.0000	Significant
	Denial						
	Anger						
	Bargaining						
	Depression						
	Acceptance						
	Locus of control						
	Self-esteem						
	Work place						
	Professional status						
	Gender						
	Months in present position						
H1	Alpha Omega Scale	.1202	.00	5/306	8.3665	.0000	Significant
	Denial						
	Anger						
	Bargaining						
	Depression						
	Acceptance						

Note. Alpha adjusted for multiple comparisons is .008.

*Alpha adjusted for multiple comparisons is .008.

(table continued)

Table 1 (continued)

Hypothesis Number	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p*	Significance
H2	Locus of control	.1012	.00	1/307	34.5733	.0000	Significant
H3	Self-esteem	.0444	.00	1/307	14.2704	.0002	Significant
H4	Work place	.0018	.00	1/307	.5503	.4587	Nonsignificant
H5	Professional status	.0021	.00	1/307	.6576	.4180	Nonsignificant
H6	Gender	.0000	.00	1/307	.0001	.9915	Nonsignificant
H7	Months in present position	.0001	.00	1/307	.0469	.8285	Nonsignificant

Note. Tests of significance are two-tailed.

*Alpha adjusted for multiple comparisons is .008.

Table 2

Results of General Hypothesis 2 and Specific Research Hypotheses 11-17 Indicating the Relationship of the Alpha Omega Scale, Self-Esteem, Locus of Control, and Selected Demographic Variables to Depersonalization

Hypothesis Number	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p*	Significance
HG2	Alpha Omega Scale	.2638	.00	11/297	9.6776	.0000	Significant
	Denial Anger Bargaining Depression Acceptance						
	Locus of control Self-esteem Work place Professional status Gender Months in present position						
H11	Alpha Omega Scale	.0863	.00	5/303	5.7675	.0000	Significant
	Denial Anger Bargaining Depression Acceptance						

Note. Alpha adjusted for multiple comparisons is .008.

*Alpha adjusted for multiple comparisons is .008.

(table continued)

Table 2 (continued)

Hypothesis Number	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p*	Significance
H12	Locus of control	.0463	.00	1/307	14.9149	.0001	Significant
H13	Self-esteem	.0260	.00	1/307	8.2014	.0045	Significant
H14	Work place	.0042	.00	1/307	1.3207	.2513	Significant
H15	Professional status	.1315	.00	1/307	46.5066	.0000	Significant
H16	Gender	.1211	.00	1/307	42.3068	.0000	Significant
H17	Months in present position	.0278	.00	1/307	8.7765	.0033	Significant

Note. Tests of significance are two-tailed.

*Alpha adjusted for multiple comparisons is .008.

Table 3

Results of General Hypothesis 3 and Specific Research Hypotheses 21-27 Indicating the Relationship of the Alpha Omega Scale, Self-Esteem, Locus of Control, and Selected Demographic Variables to Personal Accomplishment

Hypothesis Number	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p*	Significance
HG3	Alpha Omega Scale	.1891	.00	11/297	6.2981	.0000	Significant
	Denial						
	Anger						
	Bargaining						
	Depression						
	Acceptance						
	Locus of control						
	Self-esteem						
	Work place						
	Professional status						
	Gender						
	Months in present position						
H21	Alpha Omega Scale	.0638	.00	3/303	4.1303	.0012	Significant
	Denial						
	Anger						
	Bargaining						
	Depression						
	Acceptance						

Note. Tests of significance are two-tailed.

*Alpha adjusted for multiple comparisons is .008.

(table continued)

Table 3 (continued)

Hypothesis Number	Predictor Variables	R^2_f	R^2_I	df_N/df_D	F	p*	Significance
H22	Locus of control	.0527	.00	1/307	17.1108	.0001	Significant
H23	Self-esteem	.1339	.00	1/307	47.4704	.0000	Significant
H24	Work place	.0001	.00	1/307	.0539	.8165	Nonsignificant
H25	Professional status	.0004	.00	1/307	.1280	.7207	Nonsignificant
H26	Gender	.0003	.00	1/307	.1180	.7314	Nonsignificant
H27	Months in present position	.0044	.00	1/307	1.3763	.2416	Nonsignificant

Note. Tests of significance are two-tailed.

*Alpha adjusted for multiple comparisons is .008.

By doing this, a separate set of descriptive statistics for each group became available. In Table 23, the descriptive statistics regarding emotional exhaustion are reported. The descriptive statistics for depersonalization in burnout, comparing registered nurses, interns, and residents, are reported in Table 24. The comparison continues in Table 25 where the descriptive statistics for personal accomplishment are reported. Table 26 contains the descriptive statistics regarding the independent variables in the original hypotheses and the comparison between registered nurses, interns, and residents.

Table 4

Comparison of Descriptive Statistics between Registered Nurses, Interns, and Residents Regarding Emotional Exhaustion

Variable	Registered Nurses			Interns and Residents		
	M	SD	n	M	SD	n
Frequency of emotional exhaustion	21.693	10.736	212	22.581	9.664	136
Intensity of emotional exhaustion	29.431	11.730	211	30.267	11.006	135
Product of the sum of the frequency and sum of the intensity of emotional exhaustion	736.081	593.838	211	766.604	512.175	134

Table 5

Comparison of Descriptive Statistics between Registered Nurses, Interns, and Residents Regarding Depersonalization

Variable	Registered Nurses			Interns and Residents		
	M	SD	n	M	SD	n
Frequency of depersonalization	6.986	5.345	212	12.118	6.325	136
Intensity of depersonalization	9.476	7.001	212	15.596	7.650	136
Product of the sum of the intensity and sum of the frequency of depersonalization	95.284	121.093	211	225.748	188.496	135

Table 6

Comparison of Descriptive Statistics between Registered Nurses, Interns, and Residents Regarding Personal Accomplishment

Variable	Registered Nurses			Interns and Residents		
	M	SD	n	M	SD	n
Frequency of personal accomplishment	37.773	6.311	211	38.508	5.583	132
Intensity of personal accomplishment	40.090	7.516	211	40.256	6.248	132
Product of the sum of the intensity and sum of the frequency of personal accomplishment	1550.218	484.111	211	1573.993	412.710	131

Table 7

Prediction of General Hypothesis 1 by the Five Alpha Omega Scale Profile Types

Hypothesis	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p	Significance
HG1 Emotional Exhaustion	Profile Type 1 High Acceptance Low Anger	.0823	.00	5/280	4.9199	.0002	Significant
	Profile Type 1 High Bargaining Low Depression						
	Profile Type 3 High Bargaining Low Anger						
	Profile Type 4 High Bargaining Low Denial						
	Profile Type 5 High Denial Low Depression						

Note. Alpha adjusted for multiple comparisons is .008.

Table 8

Prediction of General Hypothesis 2 by the Five Alpha Omega Scale Profile Types Collectively

Hypothesis	Predictor Variable	R^2_f	R^2_R	df_N/df_D	F	p	Significan
HG2 Depersonalization	Profile Type 1 High Acceptance - Low Anger	.0815	.00	5/280	4.8679	.0003	Significan
	Profile Type 2 High Bargaining - Low Depression						
	Profile Type 3 High Bargaining - Low Anger						
	Profile Type 4 High Bargaining - Low Denial						
	Profile Type 5 High Denial - Low Depression						

Note. Alpha corrected for multiple comparisons is .008.

Table 9

Prediction of General Hypothesis 3 by the Five Alpha Omega Scale Profile Types Collectively

Hypothesis	Predictor Variable	R^2_F	R^2_R	df_N/df_D	F	p	Significance
HG3 Personal Accomplishment	Profile Type 1 High Acceptance - Low Anger	.0217	.00	5/280	1.220	.2996	Nonsignificant
	Profile Type 2 High Bargaining - Low Depression						
	Profile Type 3 High Bargaining - Low Anger						
	Profile Type 4 High Bargaining - Low Denial						
	Profile Type 5 High Denial - Low Depression						

Note. Alpha corrected for multiple comparisons is .008.

Table 10

Means for Specific Hypotheses 1 and 22 Derived from Profile Analysis on the Alpha Omega Scale

	Profile Type	Specific Hypothesis 1: Emotional Exhaustion	Specific Hypothesis II: Depersonalization
1	High Acceptance - Low Anger	88.3546	30.3049
2	High Bargaining - Low Depression	96.52	36.8
3	High Bargaining - Low Anger	75.5111	29.8604
4	High Bargaining - Low Denial	106.0555	48.6666
5	High Denial - Low Depression	121.6363	58.0909
6	Undifferentiated	181.0000	70.0

Table 11

Prediction of Depersonalization by Comparison of Alpha Omega Profile Types

Specific Hypothesis	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p	Significance
11 Depersonalization	Type 1/Type 2	.0098	.00	1/191	1.6735	.7008	Nonsignificant
	Type 1/Type 3	.0004	.00	1/191	.0081	.9283	Nonsignificant
	Type 1/Type 4	.0433	.00	1/159	7.1136	.0085	Significant
	Type 1/Type 5	.0845	.00	1/161	14.0851	.0002	Significant
	Type 1/Type 6	.0740	.00	1/145	11.6001	.0009	Significant
	Type 2/Type 3	.0099	.00	1/91	.9103	.3426	Nonsignificant
	Type 2/Type 4	.0216	.00	1/66	1.4587	.2314	Nonsignificant
	Type 2/Type 5	.0493	.00	1/70	3.6325	.0608	Nonsignificant
	Type 2/Type 6	.0696	.00	1/54	4.0432	.0494	Nonsignificant
	Type 3/Type 4	.0763	.00	1/59	4.8800	.0311	Nonsignificant

Notes. Alpha adjusted for multiple comparisons is .008.

Type 1 = High Acceptance - Low Anger.
Type 2 = High Bargaining - Low Depression.
Type 3 = High Bargaining - Low Anger.
Type 4 = High Bargaining - Low Denial.
Type 5 = High Denial - Low Depression.
Type 6 = Undifferentiated.

(table continued)

Table 11 (continued)

Specific Hypothesis	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p	Significance
11 Depersonalization	Type 3/Type 5	.1008	.00	1/63	7.0678	.0099	Nonsignificant
	Type 3/Type 6	.1481	.00	1/47	8.1716	.0063	Significant
	Type 4/Type 5	.0113	.00	1/38	.4372	.5125	Nonsignificant
	Type 4/Type 6	.0857	.00	1/22	2.0643	.1649	Nonsignificant
	Type 5/Type 6	.0093	.00	1/26	.2449	.6248	Nonsignificant

Notes. Alpha adjusted for multiple comparisons is .008.

Type 1 = High Acceptance - Low Anger.
Type 2 = High Bargaining - Low Depression.
Type 3 = High Bargaining - Low Anger.
Type 4 = High Bargaining - Low Denial.
Type 5 = High Denial - Low Depression.
Type 6 = Undifferentiated.

Table 12

Prediction of Emotional Exhaustion by Comparison of Alpha Omega Profile Types

Specific Hypothesis	Predictor Variables	R^2_f	R^2_I	df_N/df_D	F	p	Significance
1 Emotional Exhaustion	Type 1/Type 2	.00378	.00	1/191	.71783	.3979	Nonsignificant
	Type 1/Type 3	.00955	.00	1/191	1.7540	7.008	Nonsignificant
	Type 1/Type 4	.01046	.00	1/159	1.6495	.2009	Nonsignificant
	Type 1/Type 5	.03650	.00	1/161	6.0986	.0146	Nonsignificant
	Type 1/Type 6	.01573	.00	1/145	15.3502	.0001	Significant
	Type 2/Type 3	.03036	.00	1/91	2.8897	.0948	Nonsignificant
	Type 2/Type 4	.0050	.00	1/66	.3338	.5654	Nonsignificant
	Type 2/Type 5	.0293	.00	1/70	2.1189	.1150	Nonsignificant
	Type 2/Type 6	.1433	.00	1/54	9.0353	.0040	Significant
	Type 3/Type 4	.0714	.00	1/59	4.5386	.0373	Nonsignificant

Notes. Alpha adjusted for multiple comparisons is .008.

Type 1 = High Acceptance - Low Anger.
Type 2 = High Bargaining - Low Depression.
Type 3 = High Bargaining - Low Anger.
Type 4 = High Bargaining - Low Denial.
Type 5 = High Denial - Low Depression.
Type 6 = Undifferentiated.

(table continued)

Table 11 (continued)

Specific Hypothesis	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p	Significance
11 Depersonalization	Type 3/Type 5	.1008	.00	1/63	7.0678	.0099	Nonsignificant
	Type 3/Type 6	.1481	.00	1/47	8.1716	.0063	Significant
	Type 4/Type 5	.0113	.00	1/38	.4372	.5125	Nonsignificant
	Type 4/Type 6	.0857	.00	1/22	2.0643	.1649	Nonsignificant
	Type 5/Type 6	.0093	.00	1/26	.2449	.6248	Nonsignificant

Notes. Alpha adjusted for multiple comparisons is .008.

Type 1 = High Acceptance - Low Anger.
Type 2 = High Bargaining - Low Depression.
Type 3 = High Bargaining - Low Anger.
Type 4 = High Bargaining - Low Denial.
Type 5 = High Denial - Low Depression.
Type 6 = Undifferentiated.

Table 12(continued)

Specific Hypothesis	Predictor Variables	R^2_f	R^2_r	df_N/df_D	F	p	Significance
1 Emotional Exhaustion	Type 3/Type 5	.1167	.00	1/63	8.3238	.0054	Significant
	Type 3/Type 6	.2885	.00	1/47	19.6061	.0001	Significant
	Type 4/Type 5	.0161	.00	1/38	.62362	.4346	Nonsignificant
	Type 4/Type 6	.3088	.00	1/22	9.8306	.0048	Significant
	Type 5/Type 6	.0081	.00	1/26	3.1521	.0875	Nonsignificant

Notes. Alpha adjusted for multiple comparisons is .008.

Type 1 = High Acceptance - Low Anger.
Type 2 = High Bargaining - Low Depression.
Type 3 = High Bargaining - Low Anger.
Type 4 = High Bargaining - Low Denial.
Type 5 = High Denial - Low Depression.
Type 6 = Undifferentiated.

Table 13

Comparison of Results for the Composite Dependent Variable and the Separate, Alternative Components of Frequency and Intensity: Depersonalization

Hypotheses	Depersonalization Composite	Depersonalization Frequency (Alternative)	Depersonalization Intensity (Alternative)
HG2 Depersonalization	Significant	Significant	Significant
H11 Alpha Omega Scale	Significant	Significant	Significant
H12 Locus of control	Significant	Significant	Nonsignificant
H13 Self-esteem	Significant	Significant	Nonsignificant
H14 Presence in intensive care	Nonsignificant	Nonsignificant	Nonsignificant
H15 Professional status	Significant	Significant	Significant
H16 Gender	Significant	Significant	Significant
H17 Tenure	Significant	Significant	Significant
H18 Interaction between presence in ICU and Alpha Omega Scale	Nonsignificant	Nonsignificant	Nonsignificant
H19 Interaction between presence in ICU and locus of control	Nonsignificant	Nonsignificant	Nonsignificant
H20 Interaction between presence in ICU and self-esteem	Nonsignificant	Nonsignificant	Nonsignificant

Note. Alpha adjusted for multiple comparisons is .008.